

Appl. No. : 10/654,068  
Filed : September 3, 2003

### REMARKS

Claims 1-20 are currently pending.

#### Rejections Under 35 U.S.C. §103

Claims 1-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,151,446 to Hunter et al. (hereinafter "Hunter") in view of U.S. Patent No. 6,610,150 to Savage et al. (hereinafter "Savage"). The Final Office Action states that "Applicant's argument that the prior art references do not show a substrate that is not in contact with any heated elements of the process chamber is not persuasive since that is a negative argument trying to define an invention not by what it is but by what it is not." Thus, the Office Action appears to indicate that the negative claim limitation (substrate is not in contact with any heated elements of the process chamber) is not entitled to patentable weight. The Office Action also states that the negative limitation renders the claims indefinite and vague. The Office Action does not cite any support for these positions. Applicants kindly request that the Examiner identify specific statutes, caselaw, or other precedent relied upon for concluding that the negative claim limitation is indefinite, vague, and not entitled to patentable weight.

Both the MPEP and modern case law from the Federal Circuit are quite clear that "[t]he use of a negative limitation to define the metes and bounds of the claimed subject matter is a permissible form of expression." *Animal Legal Defense Fund v. Quigg*, 932 F.2d 920, 923 (Fed. Cir. 1991); *see also SmithKline Beecham v. Apotex*, 403 F.3d 1331, 1363-64 (Fed. Cir. 2005) (endorsing the use of negative limitations such as "non-natural" in biological patents to avoid claiming unpatentable subject matter); *Amgen v. Hoechst Marion Roussel*, 314 F.3d 1313, 1329 (Fed. Cir. 2003) (same). There is a historical basis for the Office Action's position, as explained in the MPEP: "Some older cases were critical of negative limitations because they tended to define the invention in terms of what it was not, rather than pointing out the invention." MPEP, §2173.05(i). However, that line of cases has been eviscerated and it is now settled law "that there is nothing inherently ambiguous or uncertain about a negative limitation." *Id.*

In *In re Wakefield*, 422 F.2d 897 (CCPA 1970), the court reviewed the rejection of a claim that recited a negative limitation. The application was directed to a synthetic homopolymer of isoprene, and the claims recited, *inter alia*, "said homopolymer being free from the proteins, soaps, resins, and sugars present in natural Hevea rubber." *Id.* at 899. The Patent

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Office Board of Appeals rejected the claims for indefiniteness under §112 for using a negative limitation. However, the Court of Customs and Patent Appeals reversed the board's rejection, holding that "[t]he scope of the claim is still definite ... because each recited limitation is definite." *Id.* at 904.

Soon after *Wakefield*, the court again sanctioned the use of negative limitations in *In re Barr*, 444 F.2d 588 (CCPA 1971). In that case, the court reviewed the board's rejection of claims reciting "incapable of forming a dye with said oxidized developing agent" on the grounds that the claims included a negative limitation. The Court of Customs and Patent Appeals reversed, explaining that they "see no problem with [negative limitations] under the second paragraph of section 112, so long as the scope of the claim is definite. Here again the boundaries of the patent protection sought are set forth definitely, albeit negatively, and here again we hold that the challenged claim complies with the second paragraph of 112 in this respect." *Id.* at 595. Thus, the courts have consistently upheld negative limitations against §112 challenges, so long as each recited limitation is definite.

Applicants submit that there is nothing indefinite about the pending claims, as the boundaries of the patent protection sought in the pending claims are clear and each recited limitation is definite. Thus, the recitation of a substrate that is not in contact with any heated elements of the process chamber, as recited in independent Claims 1 and 10, does not render the claims indefinite or vague and there is nothing inherently ambiguous or uncertain about this negative limitation.

The Office Action has not pointed to anything in either of the cited references that teaches or suggests preheating the substrate, wherein the substrate is not in contact with any heated elements of the process chamber while the substrate is preheated, as recited in Claims 1 and 10. As noted in the previously filed amendment, neither Hunter nor Savage teach or suggest preheating the substrate, wherein the substrate is not in contact with any heated elements of the process chamber while the substrate is preheated. Both Hunter and Savage disclose using lift pins to support a substrate during the preheat period. *See, e.g.*, Hunter, at col. 3, line 63 – col. 4, line 2 and Fig. 1A; Savage, at col. 10, lines 52-62, col. 15, lines 39-53. Thus, in both of the cited references, the lift pins, which are heated elements of the process chamber, are in contact with the substrate during the preheat period.

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Neither of the cited references provides any motivation or suggestion for preheating a substrate, wherein the substrate is not in contact with any heated elements of the process chamber while the substrate is preheated, as recited in Claims 1 and 10. Furthermore, neither reference teaches or suggests high temperature processing (*e.g.*, maintaining the substrate support at greater than 900° C or at the process temperature during the substrate preheat period). Claims 1 and 10 are therefore patentable over Savage and Hunter. Claims 2-9 and 11-20, which depend from and include all of the limitations of Claim 1 or Claim 10, are therefore also patentable over Savage and Hunter. Furthermore, each of the dependent claims recites additional distinguishing features of particular utility.

### Conclusion


Applicants respectfully submit that all of the pending claims are patentably distinguishable over the prior art of record. None of the cited references, either alone or in combination, teaches or suggests Applicants' claimed invention.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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